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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the bag for sterilization which puts in forceps, tweezers, scissors, etc. and sterilizes these in more detail about the bag for sterilization of medical application.

[0002]

[Description of the Prior Art]In the medical field, after sterilization treatment is performed to forceps, tweezers, scissors (it is hereafter named forceps generically), etc., a patient's medical examination and an operation are presented with them. As a typical sterilizing method, forceps are accommodated in the bag for sterilization, \*\* is carried out, it inserts in in autoclave and the method of carrying out autoclave sterilization is known. It explains in detail below.

[0003]Drawing 7 is a figure showing signs that the forceps 4 were put into this kind of bag 6 for sterilization. The bag 6 for sterilization consists of a sheet of two sheets, a side front sheet is the synthetic resin film 1, a back side sheet is the sheet 2 made of paper, and the heel seat of both the sheets 1 and 2 is carried out by the seal part 3. In the state before storing the forceps 4, the opening 8a of the sheet upper part is not heat sealed, and is opened wide.

[0004]In use of the bag for sterilization, the forceps 4 are inserted about three from the opening 8a of the above-mentioned bag 6 for sterilization, and the opening 8a is heat sealed. This seal part turns into the upper part seal part 8. It inserts in autoclave after that and sterilization is performed for 20 minutes under conditions (121 \*\* and 2 atmospheres). When using forceps with medical examination etc., the upper part of the bag 6 for sterilization is cleared, and the inner forceps 4 are used.

[0005]There is the method of standing forceps to forceps \*\*\*\* and sterilizing as a sterilizing method of other forceps. This sterilizing method is a method of standing the forceps 4 to forceps \*\*\*\* 5, putting the bag 9 of a nonwoven fabric for these forceps 4 on the wrap, binding

the end of the bag 9 with the string 9a, stopping it, and carrying out autoclave sterilization like \*\*\*\* with autoclave after that, as shown in drawing 8. The end of \*\*\*\* 9 may be stopped on a tape. When using the forceps 4, the bag 9 is removed, and it is used where the forceps 4 are stood to forceps \*\*\*\* 5, as the solid line of drawing 8 shows.

[0006]As a sterilizing method, gaseous sterilization is also well performed besides the above-mentioned autoclaved sterilization. Gas sterilization sterilizes by inserting in a thing to be sterilized in a gas sterilizer, for example, exposing to ethylene oxide gas with a concentration of 300-1000mg/l. for 2 to 18 hours by the temperature of 40-60 \*\*, and 30 to 60% of humidity RH.

[0007]Although the above-mentioned bag 6 for sterilization consists of two sheets, a synthetic resin film and the sheet made of paper, it also has an one-sheet sheet which consists of paper, a synthetic resin film, or a nonwoven fabric in addition to this. The above-mentioned bag 9 may be a product made of paper.

[0008]

[Problem(s) to be Solved by the Invention]However, in the conventional bag for sterilization, since it is thin, several [ 1 or / at most ] can be accommodated in the bag for sterilization whose number is one, When you needed many forceps, many bags for sterilization had to be opened and taken out and there was a problem of becoming the trouble of a complicated and quick therapy and an operation. In addition, in the conventional bag for sterilization, when inserted in autoclave, it will be horizontally put to sleep and will arrange, or as a side edge is put oblong, it will be arranged [ a bottom is used, ], and there was a problem of taking a space too much.

[0009]When using a lot of forceps at once in the method of standing forceps to forceps \*\*\*\* on the other hand, and sterilizing, the time and effort which opens a bag could be saved separately, and it was advantageous to it, but since it was the composition which stops a bag with a tape or a string on a forceps \*\*\*\* side attachment wall, sealing performance was missing and there was a possibility that saprophytic bacteria etc. might go into an inside after sterilization treatment. Forceps \*\*\*\* is bulky, it is a storage place the inside of autoclave, and after sterilization treatment, and there was a problem of occupying a space greatly.

[0010]It aims at providing the bag for sterilization which this invention was made in view of the above conventional problems, can ensure seal, and can store many forceps into one bag, and does not take a space in insides or storage places, such as autoclave at the time of sterilization.

[0011]

[Means for Solving the Problem]In a bag for sterilization which this invention makes the 1st piece of a rectangle, and the 2nd joint piece of a rectangle with this meet, opens one of four peripheries wide, and thermal melting arrival makes saccate, Allot the 3rd piece of a rectangle that makes the same length as the pars-basilaris-ossis-occipitalis length of the above-

mentioned bag a position applicable to this back's pars basilaris ossis occipitalis with two sides of opposite, and. this -- folding the 3rd piece of a rectangle in half so that it may become symmetrical by a line parallel to said two sides of opposite -- that inward line -- the [ said ] -- the [ 1 and ] -- it being positioned so that it may be put between pieces of a rectangle of two, and a field which sandwiches said inward line for this 3rd piece of a rectangle, [ leave and ] Let it be a gist to leave said field which sandwiches said inward line as a ship's-bottom-like non-fuse section by making the 1st piece pars-basilaris-ossis-occipitalis edge of a rectangle, and the 2nd piece pars-basilaris-ossis-occipitalis edge of a rectangle carry out thermal melting arrival independently, respectively.

[0012]In addition, either said 1st piece of a rectangle or said 2nd piece of a rectangle comprises a thermal melting arrival nature synthetic resin film or a thermal melting arrival nature nonwoven fabric extensively, and, as for another side, it is preferred to comprise a nonwoven fabric, paper, or a synthetic paper extensively.

[0013]Either [ or ] said 1st piece of a rectangle or said 2nd piece of a rectangle It is constituted by combination of a field which comprised a thermal melting arrival nature synthetic resin film or a thermal melting arrival nature nonwoven fabric, and a field which comprised a nonwoven fabric, paper, or a synthetic paper, and, as for another side, it is preferred to comprise a thermal melting arrival nature synthetic resin film or a thermal melting arrival nature nonwoven fabric extensively. It is preferred that said 3rd piece of a rectangle comprises a thermal melting arrival nature synthetic resin film or a thermal melting arrival nature nonwoven fabric extensively. In addition, as for a piece of a rectangle which comprised said nonwoven fabric, paper, or a synthetic paper, it is more preferred that it is what has gas permeation nature, steamy permeability, and water repellence.

[0014]Said thermal melting arrival nature synthetic resin film consists of two layers, the 1st and the 2nd, said 1st layer is not less than 100 \*\* and less than 200 \*\* in the melting points, and, as for said 2nd layer, it is more desirable for the melting point to be not less than 200 \*\*.

[0015]It is a more desirable mode that said 1st layer comprises polyethylene or polypropylene, and said 2nd layer comprises polyamide or polyethylene terephthalate.

[0016]

[Embodiment of the Invention]In this invention, the 3rd piece of a rectangle provided in the pars basilaris ossis occipitalis of the bag for sterilization enables standing up of the bag for sterilization, and carries out stably holding of this, and, thereby, longwise arrangement is attained. That is, when the piece of a rectangle of the above 3rd folded in half spreads, a pars basilaris ossis occipitalis (ship's-bottom-like non-fuse section) is formed and the 1st piece of a rectangle and the 2nd piece of a rectangle constitute a cylindrical side attachment wall, big capacity can be obtained and, thereby, many forceps can be put in. And since it is mutually stuck to the one -each 3rd piece of a rectangle by thermal melting arrival (heat sealing), it does

not have fear of a contamination.

[0017]Since the 1st or 2nd piece of a rectangle has the field which comprised a nonwoven fabric, paper, and a synthetic paper, water-vapor-permeation nature can be given and sterilization by autoclave can be performed.

[0018]The piece of a rectangle of the above-mentioned nonwoven fabric, paper, and a synthetic paper in what has steamy permeability and water repellence. Since carry out humidity and it does not collapse, even if put to a steam within autoclave, and a steam can be made to be able to penetrate inside a bag efficiently, and forceps can be sterilized good and also it has gas permeation nature, it can use also for gas sterilization.

[0019]Hereafter, the bag for sterilization concerning this invention is explained in detail based on an example.

<1st example> drawing 1 indicates the forceps 4 accommodated in it to be the 1st example of the bag 16 for sterilization concerning this invention -- a part -- a notch -- him -- it is \*\*\*\*\*.

The bag 16 for sterilization mainly comprises the back side sheet 12 as 1st piece of a rectangle, and the side front film 11 as 2nd piece of a rectangle and the bottom film 10 which forms the 3rd piece of a rectangle.

[0020]The above-mentioned side front film 11 and the bottom film 10 consist of a rectangular synthetic resin film in which heat-sealing nature (thermal melting arrival nature) has the whole surface. This synthetic resin film comprises two layers from which the melting point differs, for example, carries out dry laminate of the polyamide (the 2nd layer) to polypropylene (the 1st layer). 6,6-nylon and 6-nylon are used as polyamide, and it is only called nylon below.

[0021]On the other hand, the whole surface is formed with the piece of paper of the rectangle which consists of pulpwood etc. which the back side sheet 12 has gas permeation nature and water-vapor-permeation nature, and were given a water-repellent finish. The pars-basilaris-ossis-occipitalis edge of the back side sheet 12 and the pars-basilaris-ossis-occipitalis edge of the side front film 11, and two sides of opposite of the bottom film 10, It remains without heat sealing in the bottom side sealed parts 19, and heat sealing the field which sandwiches an inward line when the ship's-bottom-like non-fuse section 10 of the bottom film 10, i.e., a bottom film, is folded in two, and the pars basilaris ossis occipitalis of the bag 16 for sterilization is formed. The edges on both sides of the back side sheet 12 and the side front film 11 are heat sealed by the horizontal side sealed parts 13, respectively, and also are heat sealed in the punch seal part 17 of the lower part of the above-mentioned edges on both sides, and form the side attachment wall of the bag 16 for sterilization. Before use, do not paste up the upper part seal part 8 and it is opened wide.

[0022]Next, the operation method at the time of use is explained. When using it, the forceps 4 are accommodated about ten from the opening 8a of the bag 16 for sterilization, for example, and the upper part seal part 8 is heat sealed. It inserts in autoclave after that, for example,

sterilization is performed for 20 minutes under conditions (121 °C and 2 atmospheres). In the insertion to autoclave, the bag 16 for sterilization of the 1st example can turn the bottom film 10 down, since it can be stood longwise and can be arranged, it can save a space, therefore it can store much sterilization treatment article in autoclave simultaneously.

[0023]The back side sheet 12 has gas permeation nature, steamy permeability, and water repellence as mentioned above. Therefore, since the inflow of the steam which does not say that humidity is carried out and it becomes easy to be torn even if put to a steam, and passes this back side sheet 12 is possible, the sterilization treatment by autoclave becomes possible. On the other hand, since there is gas permeation nature, gas sterilization by ethylene oxide gas can also be performed.

[0024]In using the forceps 4 in the bag 16 for sterilization, while it has been the bag 16 for sterilization containing the forceps 4, it puts into forceps \*\*\*\*, and opening and using the upper part seal part 8 is recommended. Under the present circumstances, since the forceps 4 do not touch forceps \*\*\*\* directly, sterilization of forceps \*\*\*\* becomes unnecessary.

[0025]In order to open the upper part seal part 8, as shown in drawing 2, it has a bag upper bed part of the side front film 11 and the back side sheet 12, respectively, and as it extends in the direction of arrow A, respectively, it opens in it (this way of opening is hereafter called peel opening). In operation of lengthening, breaking and opening the upper bed of the bag 16 for sterilization like the former, there is a possibility that the saprophytic bacteria which paper powder scattered and have adhered to the bag exterior may go into the inside of the bag for sterilization. However, since it is the composition which can be opened by peel opening by the 1st example, there are no worries about the contamination to an inside. In peel opening, naturally scissors will not be needed, but its excessive sterilization treatment will decrease.

[0026]The above-mentioned side front film 11 and the bottom film 10 consist of a heat-sealing nature synthetic resin as mentioned above, when heat sealing, the 1st layer (for example, polypropylene) fuses with heating, and the 2nd layer (for example, nylon) is heat sealed by holding shape, without melting. Thus, since each piece of a rectangle of the bag 16 for sterilization has pasted up by thermal melting arrival, it will be in the adhesion state in which said peel opening is possible.

[0027]As for the bag 16 for sterilization of the 1st example, the bottom film 10 makes the shape of a boat bottom as mentioned above, The almost cylindrical side by the side front film 11 and the back side sheet 12 is formed, and since it has the form where the wall of forceps \*\*\*\* is met, the bag 16 for sterilization containing the forceps 4 can be entirely put into forceps \*\*\*\* efficiently. Therefore, a forceps \*\*\*\* building envelope is not occupied by the bag, and large content volume can be taken, and moreover, the bag 16 for sterilization which moreover forms cylindrical shape mostly can put in much forceps, without contacting the forceps 4 to forceps \*\*\*\*, since much forceps 4 can be accommodated.

[0028]Since the state where it stood up in the longwise direction in itself [ bag 16 ] by making bottom film 10 portion into a pars basilaris ossis occipitalis can be maintained, the bag 16 for sterilization has unnecessary forceps \*\*\*\*, if it is used placing on a fixed angular table.

Therefore, in environment like an operating room, when sterilization treatment of all the things to carry in must be carried out, it is not necessary to carry in forceps \*\*\*\* which performed sterilization treatment, and sterilization work can be simplified.

[0029]Next, one example of the manufacturing process of the bag for sterilization concerning this invention is explained. (a) of drawing 3 (b) It is a figure showing an example of the manufacturing process of the above-mentioned bag 16 for sterilization shown in drawing 1.

The resin film 20 for bottoms which forms the bottom film 10 is skipped, it is folded with the vessel 29 at 2 chip boxes, and advances in the direction of arrow C, and a hole is opened in the portion equivalent to the punch seal part 17 with the punch implement 23. On the other hand, the resin film 21 which forms the side front film 11 advances in the direction of arrow B, and follows the paper film 22 which forms the back side sheet 12 in the direction of arrow D.

[0030]The above-mentioned resin film 20 for bottoms folded in two is inserted into the resin film 21 and the paper film 22 in the position of the bottom of the bag 16 for sterilization, with the heat-sealing machines 24a and 24b, has the bottom side sealed parts 19 heated, and is pasted up. The heat-sealing machine 24a is 170 \*\* suitable for heat sealing, and the heat-sealing machine 24b is set as 240 \*\* which is a little high temperature in consideration of the thermal conductivity of paper being low.

[0031]Subsequently, it is cooled by the condensator 25 and then the horizontal side sealed parts 13 are heat sealed with the heat-sealing machines 26a-26c. In the case of heat sealing of this width, the paper film 22 side is first heated with the heat-sealing machine 26a (240 \*\*), and the resin film 21 side is heated with the heat-sealing machine 26b (230 \*\*). Thus, the intensity of a seal part increases rather than the direction heated in two steps heats both sides simultaneously. The heat-sealing machine 26c heat seals the punch seal part 17, and since this portion has floated with the thickness by the resin film 20 for bottoms, as punch seal part 17 portion is forced, it carries out the seal of it.

[0032]Then, the garbage (E, F portion which are shown in (b) of drawing 3) in which the bottom of the bag for sterilization and the upper part remained is cut with the leather 27, the cutting edge 28 cuts a part for Yokobe of the bag for sterilization, and the individual bag 16 for sterilization is completed.

[0033]The <2nd example>, next the 2nd example of the bag for sterilization concerning this invention are explained. drawing 4 shows the bag 36 for sterilization which is the 2nd example, and the forceps 4 accommodated in it -- a part -- a notch -- him -- it is \*\*\*\*\*. The side front film 11 as 2nd piece of a rectangle of the bag 36 for sterilization and the bottom film 10 (3rd piece of a rectangle) which forms a boat bottom portion are the same as the bag 16 for

sterilization shown in said drawing 1. On the other hand, as for the 1st piece of a rectangle, two films, the upper part film 32 and the bottom film 35, are joined, the upper part film 32 is a product made of paper, and the bottom film 35 is a product made of a synthetic resin as well as the side front film 11 or the bottom film 10.

[0034]The upper part film 32 and the bottom film 35 are heat sealed in the side seal part 33, and are heat sealed like [ the horizontal side sealed parts 13, the bottom side sealed parts 19, and the punch seal part 17 ] the above-mentioned. After the operation method at the time of use accommodates forceps etc. from the opening 8a and heat seals the upper part seal part 8 like said 1st example, it sterilizes.

[0035]Also in the 2nd example, content volume can accommodate many forceps greatly, the bag 36 for sterilization can be stood up and placed in the longwise direction like said 1st example, the sterilization and gas sterilization by autoclave can be performed, and also it has the still more nearly following operation effects by the 2nd example.

[0036]The accommodated forceps will hit and the lower part of the bag for sterilization will receive the weight. Since the heat seal part of a thermal melting arrival nature synthetic resin film and the film made of paper is in the tendency to be easy to separate compared with the heat seal part of thermal melting arrival nature synthetic resin films, it has a possibility that forceps may break through a lower heat - sealed portion, in the above-mentioned bag 16 for sterilization shown in drawing 1. However, in the case of the bag 36 for sterilization shown in drawing 4, since the bag bottom for sterilization comprises only a thermal melting arrival nature synthetic resin film, there is no possibility of separating. In addition, when using it, standing the bag 36 for sterilization to forceps \*\*\*\*, even if it obtained with the insides of forceps \*\*\*\* and has got wet, unlike the case where the bottom side is a product made of paper, moisture does not permeate in the bag 36 for sterilization, and there is no fear of contamination by moisture osmosis.

[0037]About the ratio of the size (area) of the upper part film 32 and the bottom film 35, if it is made [ the upper part film 32 ] for the 1st piece of a rectangle to occupy not less than 70%, when carrying out sterilization by steam, since a steam fully penetrates from the upper part film 32 made of paper, it is good.

[0038]Next, one example of the manufacturing process of the bag 36 for sterilization shown in drawing 4 is explained. (a) of drawing 5 It is a figure showing the whole flow of the manufacturing process, and is (c) of drawing 5. (b) of the figure seen from the arrow X direction, and drawing 5 It is the figure seen from the direction of arrow Y.

[0039]The resin film 41 of 1 sequence which forms the side front film 11 and the bottom film 35 advances in the direction of arrow B, and follows the paper film 42 which forms the upper part film 32 in the direction of arrow D. The resin film 20 for bottoms is folded like the above-mentioned at 2 chip boxes, and advances in the direction of arrow C.

[0040]The resin film 41 can change a direction with the direction converter 43, is led to the roll 44 (refer to (c) of drawing 5), and then with the leather 45. It can carve into the portion (resin film 48) which forms the bottom film 35, and the portion (resin film 47) which forms the side front film 11, and is separated into a 2-way (arrow  $B_1$ , the  $B_2$  direction) by the direction converters 46b and 46a (refer to (b) of drawing 5).

[0041]The resin film 48 is piled up from the outside of the paper film 42 in the portion of the side seal part 33, and heats and pastes up the side seal part 33 with the heat-sealing machines 24a and 24b. Simultaneously with it, the resin film 20 for bottoms folded in two is inserted into the resin film 47 and the resin film 48, and the bottom side sealed parts 19 are heated and pasted up with the heat-sealing machines 24a and 24b.

[0042]Subsequently, like the above-mentioned, it is cooled by the condensator 25, the garbage in which the horizontal side sealed parts 13 and the punch seal part 17 were heat sealed, and then a bottom and the upper part remained is cut off, a part for Yokobe of the bag for sterilization is cut by the cutting edge 28, and the individual bag 36 for sterilization is completed.

[0043]The <3rd example>, next the 3rd example of the bag for sterilization concerning this invention are explained. Drawing 6 is a rear elevation showing the bag 56 for sterilization which is the 3rd example. The side front film 11 as 2nd piece of a rectangle of the bag 56 for sterilization and the bottom film 10 (3rd piece of a rectangle) which forms a boat bottom portion are the same as said drawing 1 and the bags 16 and 36 (1st [ the ] and 2 example) for sterilization shown in 4. on the other hand, as for the 1st piece of a rectangle, four films, the upper film 52a made of paper, the band film 55a made of a synthetic resin, the lower film 52b made of paper, and the bottom film 55b made of a synthetic resin, were joined -- a basis -- it is.

[0044]Each film of the 1st piece of a rectangle is heat sealed in the side seal part 33, and is heat sealed like [ the horizontal side sealed parts 13, the bottom side sealed parts 19, and the punch seal part 17 ] the above-mentioned.

[0045]As mentioned above, when carrying out peel opening when taking out a housed object after sterilization since weld of synthetic resin films is firm, in the case of the 3rd example, exfoliation of the 1st piece of a rectangle and the 2nd piece of a rectangle will stop with the band film 55a. Therefore, in the case of peel opening, when using it like [ in the case of there being no fear of making it exfoliate to near the bottom, and using it, putting the bag for sterilization into forceps \*\*\*\* ], without exfoliating greatly, it is useful. It cannot be overemphasized that the 3rd example has a operation effect of being able to accommodate many forceps like said the 1st and 2 example.

[0046]The combination of the film made of paper and synthetic resin film in the 1st or 2nd piece of a rectangle may not be restricted to what became two steps like said bag 36 for



sterilization, and the thing which became four steps like said bag 56 for sterilization, and may be combined with six steps or three steps. Among these, it is recommended that the rate that the film made of paper occupies is not less than 70% of the 1st or 2nd piece of a rectangle.

[0047]Although the thing made of paper (pulp) was used for the back side sheet 12 or the upper part film 32 grade in the 1-3rd examples of the above, as long as it does not restrict to this and there are gas permeation nature, water-vapor-permeation nature, and water repellence, a synthetic paper or a nonwoven fabric may be sufficient.

[0048]In the 1-3rd examples of the above, although the heat-sealing nature synthetic resin film (thermal melting arrival nature synthetic resin film) was used for the side front film 11, the bottom film 10, and the bottom film 35 grade, it may not restrict to this and may be a heat-sealing nature nonwoven fabric (thermal melting arrival nature nonwoven fabric).

[0049]In the 1-3rd examples of the above, although the synthetic resin film which becomes the side front film 11 and bottom film 10 grade from two-layer [ of polypropylene and nylon ] was illustrated, this invention is not restricted to this and should just have heat-sealing nature. For example, the film which consists of polyethylene (the 1st layer) and nylon (the 2nd layer), Or they may be a film which consists of polyethylene (the 1st layer) and polyethylene terephthalate (the 2nd layer), or a film which consists of polypropylene (the 1st layer) and polyethylene terephthalate (the 2nd layer). Thus, it heat seals by supporting shape, without the 1st and 2nd layer with the different melting point piling up and being put together, the 1st layer (melting point: not less than 100 \*\*, less than 200 \*\*) melting at the time of heat sealing, and the 2nd layer (melting point: not less than 200 \*\*) melting.

[0050]

[Experiment]On the bag 36 for sterilization shown in drawing 4, the experiment about the size ratio of the upper part film 32 made of paper and the bottom film 35 made of a synthetic resin was conducted. Length  $L_1$  to the side seal part 33 from the upper part seal part 8 of the upper part film 32 23 cm, The bag for sterilization whose length  $L_2$  from the side seal part 33 of the bottom film 35 to the bottom side sealed parts 19 is 10 cm. Length  $L_1$  of (the sample a is called hereafter) and the upper part film 32 21 cm, The bag for sterilization whose length  $L_2$  of the bottom film 35 is 12 cm. It prepared three bags of (the sample b being called hereafter), respectively, a chemical indicator (made by FAIMA), a biochemical indicator (made by a three M company), and 15 \*\*\*\* gauze folded into four were accommodated in each samples a and b, and the upper part seal part 8 was heat sealed. From the lower part of the bag 36 for sterilization serving as a portion of only a synthetic resin. Since there was concern to which sterilization in a pars basilaris ossis occipitalis is not fully performed, in sterilization especially by autoclave, a chemical indicator and a biochemical indicator are accommodated in the lower part of the bag 36 for sterilization which serves as an unfavorable condition most, and it

enabled it to stack \*\*\*\* gauze on it. Then, autoclave performed sterilization for 20 minutes under conditions (121 \*\* and 2 atmospheres).

[0051]As a result, in the case of the sample a, it became the judgment in which sterilization of a chemical indicator and a biochemical indicator is good. On the other hand, in the case of the sample b, although the biochemical indicator was the judgment with good sterilization, it became the judgment with poor sterilization of a chemical indicator.

[0052]As this result shows, in 12 cm or more, it is unsuitable, as for  $L_2$ , 11 cm or less is preferred, and length  $L_2$  of the bottom film 35 is 10 cm or less more preferably. Therefore, about 30% or less of the size (area) occupied to the 1st piece of a rectangle of the bottom film 35 made of a synthetic resin is good, and the size which the upper part film 32 made of paper occupies conversely understands that not less than about 70% is good for it.

[0053]

[Example]The example about the 1st example of the above is shown below. The 1st piece of a rectangle in this example (sheet 12 made of paper), Consist of a sheet made of paper of 18 cm wide and 33 cm long, and the physical properties, Superintendent officer :  $70.3 \text{ g/m}^2$ , thickness:110.6  $\mu\text{m}$ , density:0.64  $\text{g/cm}^3$ , Vertical tensile strength: 10.53 kg/15 mm, tensile strength:6.70kg of width/15 mm, and smoothness:10.4sec. (test-method JIS P 8119) Air permeability: 16.6sec. (test-method JIS P 8117) Tensile strength at the time of humidity: They are 4.08 kg/15 mm.

[0054]The 2nd piece of a rectangle (side front film 11) is 18 cm wide and a 33-cm-long synthetic resin film, and the 3rd piece of a rectangle (bottom film 10) is 18 cm wide and a synthetic resin film with a depth of 9 cm. These synthetic resin films carry out dry laminate of the nylon to polypropylene.

[0055]5 mm in width heat sealed, and the bottom seal part 19 was heat sealed by the arc, and the punch seal part 17 was heat sealed, and the horizontal side sealed parts 13 have pasted up the \*\*\*\* sheet 12, the side front film 11, and the bottom film 10. The upper part seal part 8 is heat sealed after accommodating forceps.

[0056]

[Effect of the Invention]Seal is trustworthy, and when many forceps can be stored into one bag, therefore it uses forceps in large quantities, the bag for sterilization of this invention is convenient so that clearly from having explained above. In addition, by putting the whole bag into forceps \*\*\*\*, since forceps do not touch forceps \*\*\*\* directly, sterilization of forceps \*\*\*\* becomes unnecessary. The bag for sterilization of this invention does not take a place at the time of sterilization and storage. In addition, sterilization by autoclave is possible for the bag for sterilization of this invention, and since sterilization of autoclave is a method generally performed in the hospital etc., it is ideal for the use in a hospital etc. Gas sterilization is also

possible.

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